TANDBERG

550/770/1000/1500/2000 MXP

for Cisco® CallManager

User Manual

Software version M2
D13742.03

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TANDBERG

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Environmental Issues

Thank you for buying a product, which contributes to a reduction in pollution, and thereby helps save the environment. Our products reduce the need for travel and transport and thereby reduce pollution. Our products have either none or few consumable parts (chemicals, toner, gas, paper) and low energy consuming products.

Battery handling

Batteries for the Remote Control are Long Life and Alkaline batteries saving the environment; please follow guidelines on the packing material for handling and disposal of the batteries.

Waste handling

There is no need to send any products or material back to TANDBERG as there are no consumables to take care of. Please contact your local dealer for information on local waste handling and recycling of electronic products.

Production of products

Our factories employ the most efficient environmental methods for reducing waste and pollution and ensuring the products are recyclable.

Digital User Manuals

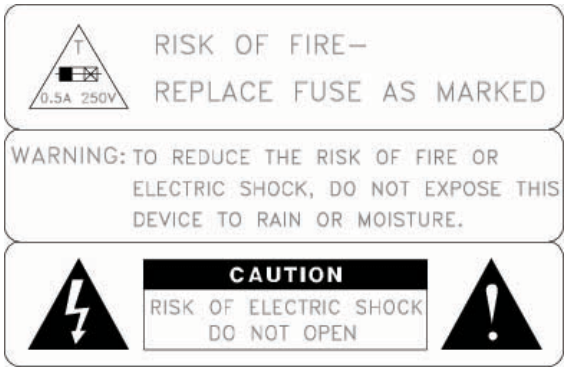
TANDBERG is pleased to announce that it has replaced the printed versions of its User Manuals with a digital CD version. Instead of a range of different user manuals, there is now one CD which can be used with all TANDBERG products, in a variety of languages. The environmental benefits of this are significant. The CDs are recyclable and the savings on paper are huge. A simple web-based search feature helps users directly access the information they need. In addition, the TANDBERG video systems now have an intuitive on-screen help function, which provides a range of useful features and tips. If desired, the user manuals on the CD can still be printed locally.

Operator Safety Summary

For your protection, please read these safety instructions completely before operating the equipment and keep this manual for future reference. The information in this summary is intended for operators. Carefully observe all warnings, precautions and instructions both on the apparatus and in the operating instructions.

Equipment Markings

The lightning flash symbol within an equilateral triangle is intended to alert the user to the presence of uninsulated “dangerous voltages” within the product’s enclosure that may be of sufficient magnitude to constitute a risk of electrical shock.
The exclamation mark within an equilateral triangle is intended to alert the user to the presence of important operating and maintenance (servicing) instructions accompanying the equipment.


T
0.5A 250V
RISK OF FIRE–
REPLACE FUSE AS MARKED
WARNING: TO REDUCE THE RISK OF FIRE OR ELECTRIC SHOCK, DO NOT EXPOSE THIS DEVICE TO RAIN OR MOISTURE.
CAUTION
RISK OF ELECTRIC SHOCK
DO NOT OPEN

Warnings

- Water and moisture - Do not operate the equipment under or near water - for example near a bathtub, kitchen sink, or laundry tub, in a wet basement, or near a swimming pool or in areas with high humidity.
- Cleaning - Unplug the apparatus from the wall outlet before cleaning or polishing. Do not use liquid cleaners or aerosol cleaners. Use a lint-free cloth lightly moistened with water for cleaning the exterior of the apparatus.
- Ventilation - Do not block any of the ventilation openings of the apparatus. Install in accordance with the installation instructions. Never cover the slots and openings with a cloth or other material. Never install the apparatus near heat sources such as radiators, heat registers, stoves, or other apparatus (including amplifiers) that produce heat.
- Grounding or Polarization - Do not defeat the safety purpose of the polarized or grounding-type plug. A polarized plug has two blades with one wider than the other. A grounding type plug has two blades and a third grounding prong. The wide blade or third prong is provided for your safety. If the provided plug does not fit into your outlet, consult an electrician.
- Power-Cord Protection - Route the power cord so as to avoid it being walked on or pinched by items placed upon or against it, paying particular attention to the plugs, receptacles, and the point where the cord exits from the apparatus.
- Attachments - Only use attachments as recommended by the manufacturer.
- Accessories - Use only with a cart, stand, tripod, bracket, or table specified by the manufacturer, or sold with the apparatus. When a cart is used, use caution when moving the cart/apparatus combination to avoid injury from tip-over.
- Lightning - Unplug this apparatus during lightning storms or when unused for long periods of time.

- ISDN cables - CAUTION - To reduce the risk of fire, use only No. 26 AWG or larger telecommunication line cord.
- Servicing - Do not attempt to service the apparatus yourself as opening or removing covers may expose you to dangerous voltages or other hazards, and will void the warranty. Refer all servicing to qualified service personnel.
- Damaged Equipment - Unplug the apparatus from the outlet and refer servicing to qualified personnel under the following conditions:
    - When the power cord or plug is damaged or frayed
    - If liquid has been spilled or objects have fallen into the apparatus
    - If the apparatus has been exposed to rain or moisture
    - If the apparatus has been subjected to excessive shock by being dropped, or the cabinet has been damaged
    - If the apparatus fails to operate in accordance with the operating instructions

LCD Display

The TANDBERG 1000 MXP is equipped with a high quality LCD display. Nevertheless, due to the complex production process and the high resolution with nearly 1,500,000 pixels, defect pixels may occur resulting in black pixels or bright dots of constant color red, green or blue. As for any other product with an LCD, these defect pixels are more or less visible depending on the nature of the picture. But since the LCD features an extra bright LCD allowing an unusual wide view angle range, bright dots may be more visible than for regular laptops. All units are subject to thorough inspection to ensure that the LCD is well within the quality guaranteed by the manufacturer.

Contact us

If you have any questions, comments or suggestions, please see the Online Support service at www.tandberg.net.

It is also possible to send a fax or mail to the attention of:

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1 Introduction

This User Manual is provided to help you make the best use of your TANDBERG unit. The TANDBERG 550/770/1000/1500/2000 MXP for Cisco CallManager offers superior audio and video quality in a fully-featured unit.

Main features

- Delivers the ultimate visual communication experience, with video quality developed by TANDBERG for business video applications.
- Full range of Cisco IP telephony functions, including Directory and Call Control, as supported by the Cisco Call Manager.
- Software upgradeable, to grow with the capabilities of the Cisco CallManager.
- Includes XML applications that deliver a range of information services to the desk top.
- Interoperability with ISDN networks via the Cisco CallManager gateway function Performance features.
- Bandwidth up to 768 Kbps.
- PC card slot for wireless LAN connection.
- New Graphical User Interface including new Remote Control.
- Far End Camera Control.
- H.264 video compression.
- G722 High quality audio algorithm.
- Advanced Screen Layout: Support for dual monitor setup (Side-by-Side) and Picture outside Picture support.
- Video source selection.

New features

- G.729 low bit rate audio algorithm

1.1 At a Glance

Please see the following sections for details on your TANDBERG for Cisco CallManager system:

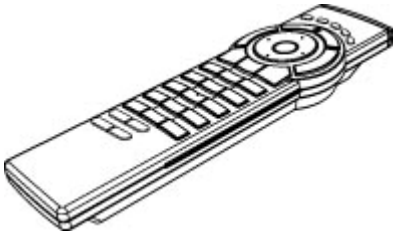
- TANDBERG 550/770 MXP for Cisco CallManager
- TANDBERG 1000 MXP for Cisco CallManager
- TANDBERG 1500 MXP for Cisco CallManager
- TANDBERG 2000 MXP for Cisco CallManager

The codec and the remote control are included with all TANDBERG MXP for Cisco CallManager systems.

Codec

The codec is the heart of the system. Its main task is the compression of outgoing video, audio and data, the transmission of this information to the far end and the decompression of the incoming information - the name codec comes from a combination of the two words compression and decompression.

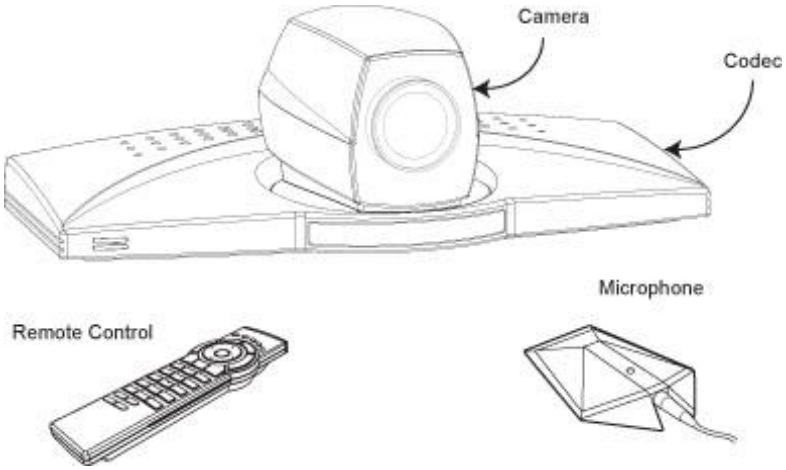
Remote control



The remote control is used to control all functions of the system. If the screen saver is activated (black monitor), touching the remote control will automatically wake up the system. The remote control uses 4 AAA batteries. The system will tell you when batteries are running low. Change the batteries at the back of the remote control.

The reach of the remote control signal is 20 meters. For users sitting in an open plan office, this can cause problems. Use the little, white switch placed under the batteries to change the reach of the signal from 20 meters to 2 meters. This will prevent you from unintentionally controlling another video system, when you control your own system.

1.2 TANDBERG 550/770 MXP for Cisco CallManager



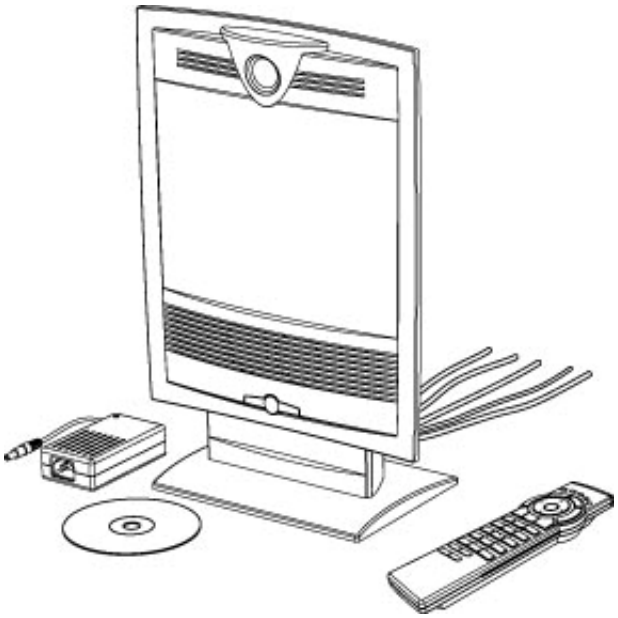
Camera

On the TANDBERG 550 MXP and TANDBERG 770 MXP the built-in camera unit includes a high quality color camera with a fast pan/tilt/zoom action. The camera is controlled by the system's infrared remote control and operates pan/tilt and zoom.

Microphone

The high quality table microphone included with your TANDBERG 550 MXP or TANDBERG 770 MXP is designed to use on a table during a videoconference. The ideal location for the microphone is on a flat surface at least 2m (6.5 ft) from the front of the system. The microphone should always be placed pointing away from the system with the cable towards the system. The system will automatically equalize sound levels. Loud and soft voices are picked up and transmitted to the far end at approximately the same level.

1.3 TANDBERG 1000 MXP for Cisco CallManager



Camera

On the TANDBERG 1000 MXP the camera the camera is an integrated part of the unit and is centrally placed just above the monitor.
The camera has manual focus.

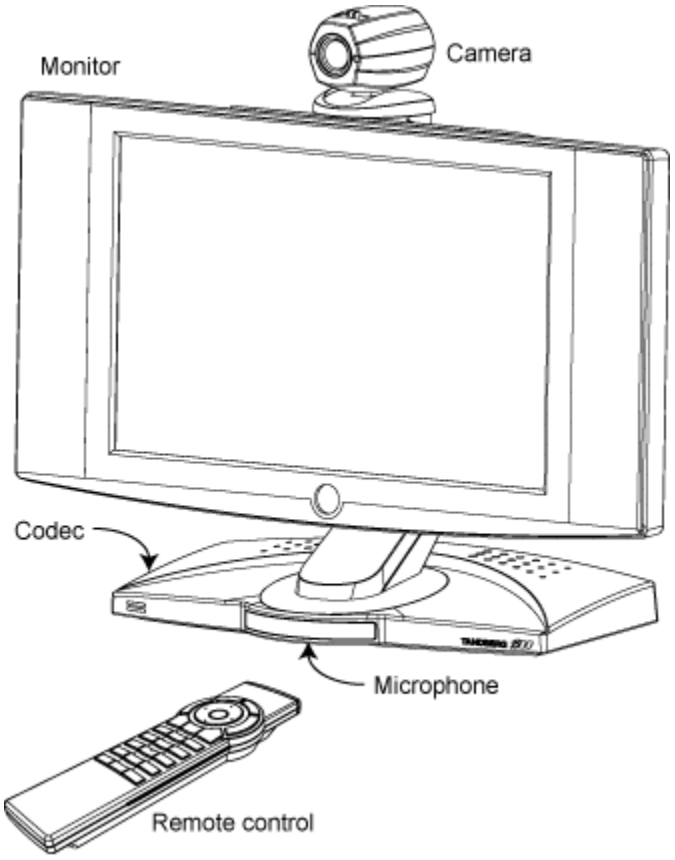
Microphone

On the TANDBERG 1000 MXP the microphone is integrated and located at the edge on the left hand side of the unit.

For privacy, a headset may be connected to the connector (audio in and out) also located at the edge on the left hand side of the unit.

The push-button on the front panel will toggle between internal microphone/loudspeaker and the headset. The button can also be used for accepting incoming calls.

1.4 TANDBERG 1500 MXP for Cisco CallManager



Camera

The high quality color main camera is mounted on top of the monitor. The main camera is controlled manually.

Monitor

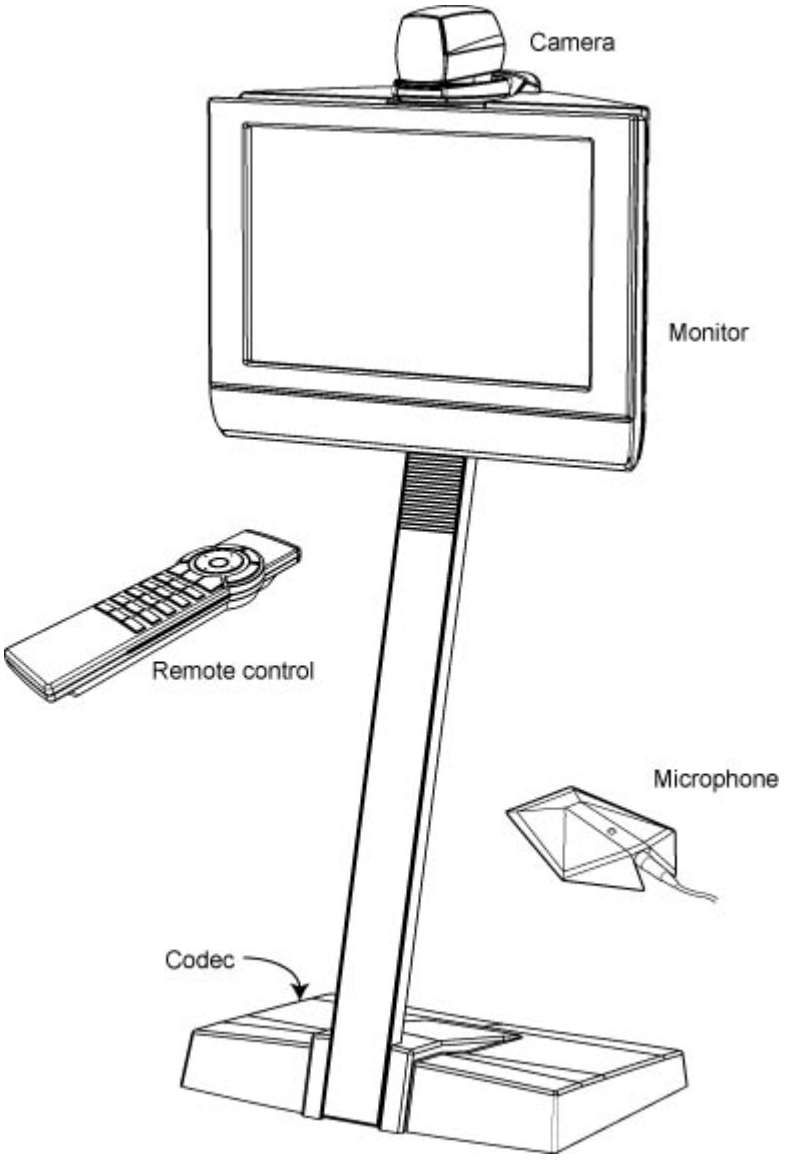
The monitor displays the far-end and near-end videoconferencing sites in addition to the menus.

Note that the monitor pictures/drawings used in this manual might differ from the actual monitor model shipped with the system.

Microphone

The microphone is integrated in the rubber foot supporting the front of the codec. This is an ideal location for the high quality voice pickup needed during a videoconference. Sound reaches the microphone through a small hole in the rubber. Care should be taken not to cover up the hole, as this may lead to deterioration of sound quality. Any liquid spilled should be cleaned up immediately to avoid damage to the microphone.

1.5 TANDBERG 2000 MXP for Cisco CallManager



Camera

The main camera is mounted on top of the monitor. The main camera includes a high quality color camera with a fast pan/tilt/zoom action. The main camera is controlled by the system's infra-red remote control and operates pan/tilt, focus and zoom.

Monitor

The monitor displays the far-end and near-end videoconferencing sites in addition to the menus.

Note that the monitor pictures/drawings used in this manual might differ from the actual monitor model shipped with the system.

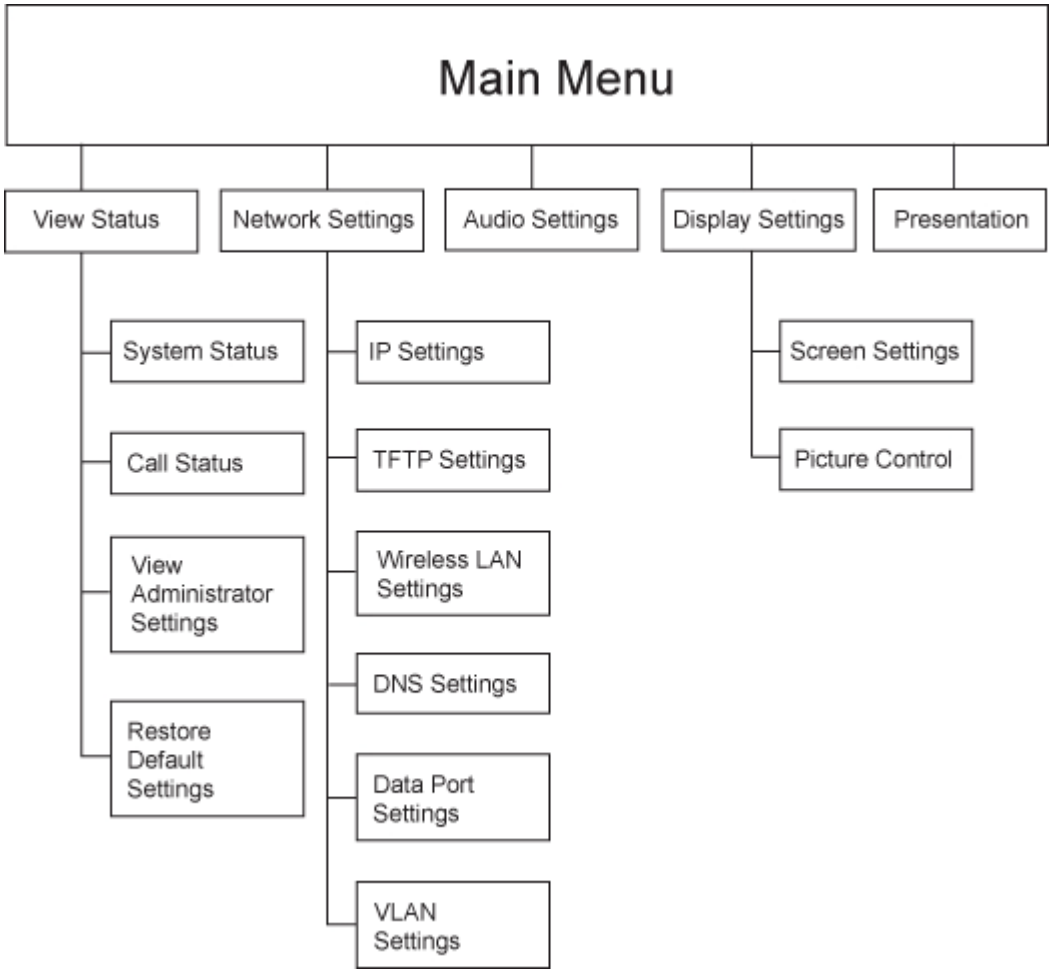
Microphone

The high quality table microphone is designed to be placed on a table during a videoconference. The ideal location for the microphone is on a flat surface at least 2m (6.5 ft) from the front of the system. The microphone cable should always point towards the system. The system will

automatically equalize sound levels. Loud and soft voices are picked up and transmitted to the far end at approximately the same level.

1.6 Settings Menu Structure

The settings menu structure is shown below. Press to enter or leave the settings menu.



2 Installation

Precautions

- Never install telephone wiring during a lightning storm.
- Never install telephone jacks in wet locations unless the jack is specifically designed for wet locations.
- Never touch uninstalled telephone wires or terminals unless the telephone line has been disconnected at the network interface.
- Use caution when installing or modifying telephone lines.
- Avoid using a telephone (other than a cordless type) during an electrical storm. There may be a remote risk of electrical shock from lightning.
- Do not use the telephone to report a gas leak in the vicinity of the leak.
- The socket outlet shall be installed near to the equipment and shall be easily accessible.
- Never install cables without first switching the power OFF.
- 1TR6 network type is not approved for connection directly to the telecommunications network. This network type is only to be used behind a PABX.

This product complies with directives: LVD 73/23/EC, EMC 89/366/EEC, R&TTE 99/5/EEC

2.1 Unpacking and Mounting

Unpacking

The TANDBERG 550/770/1000/1500/2000 MXP for Cisco CallManager consists of the following items:

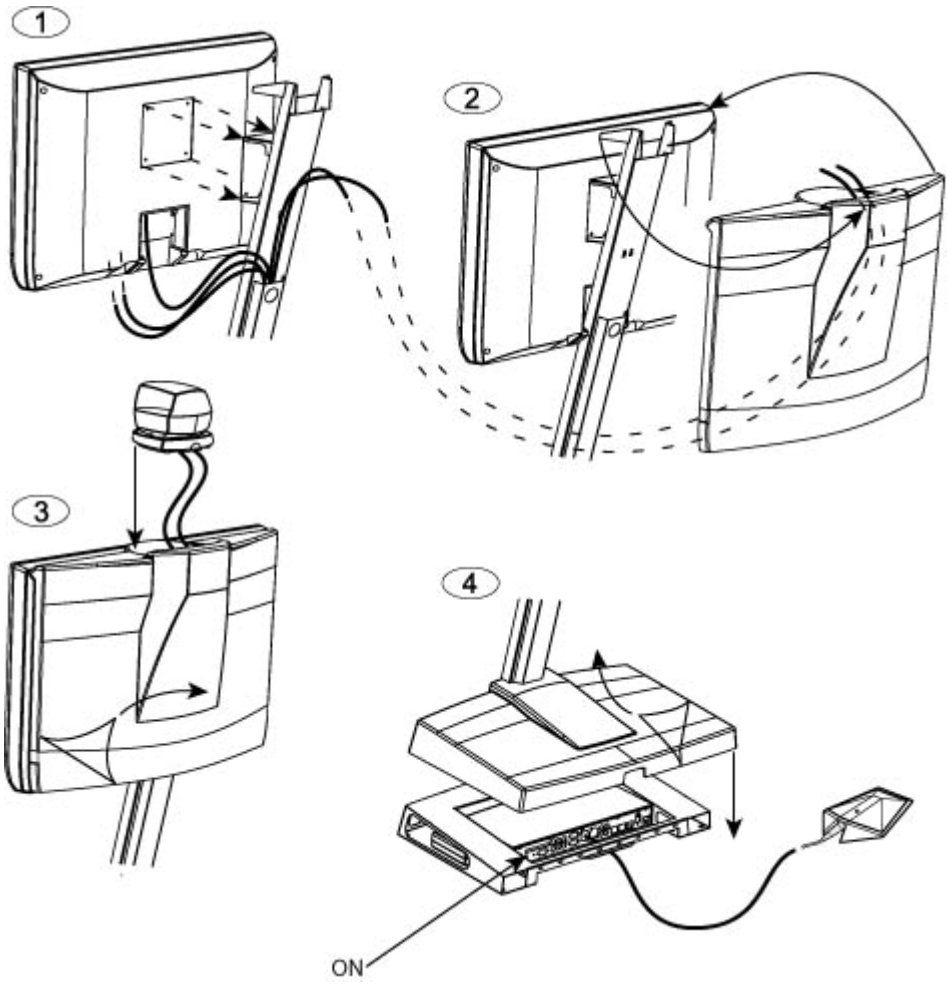
- Videoconferencing system
- Table microphone (not included with the TANDBERG 1000/1500 MXP where the microphone is integrated in the unit)
- Remote control
- Batteries
- User manual on CD
- Cables
- Power supply

Mounting of the TANDBERG 550/770 MXP for Cisco CallManager

Place the system centrally, on top of the monitor, close to the front and ensure it is stable.

Mounting of the TANDBERG 2000 MXP for Cisco CallManager

When mounting the TANDBERG 2000 MXP, follow the figures below:


1
2
3
4
ON

2.2 Connecting Cables

- TANDBERG 550/770 MXP for Cisco CallManager: Connecting Cables
- TANDBERG 1000 MXP for Cisco CallManager: Connecting Cables
- TANDBERG 1500 MXP for Cisco CallManager: Connecting Cables
- TANDBERG 2000 MXP for Cisco CallManager: Connecting Cables

2.2.1 TANDBERG 550/770 MXP for Cisco CallManager

1. Microphone Cable

- Connect the microphone to the microphone cable.
- Connect the microphone cable to microphone input 1 on the system.

2. Monitor Cable(s)

Scart (Europe):

- Connect the Scart adapter to one of the Scart connectors on your monitor.

Scart (Europe) & RCA/S-Video (US):

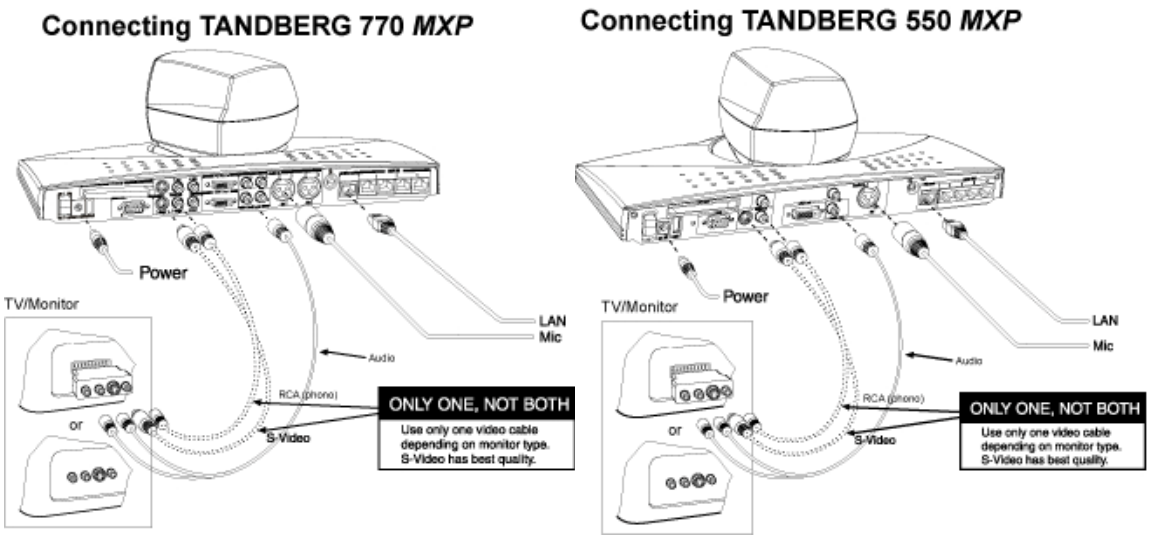
Audio:

- The cable with one RCA connector on one side and two RCA connectors on the other side:

  Connect the two RCA connectors to your monitor (or Scart adapter) Audio Left/Right connectors (the audio signal from the system is a monaural signal and therefore is fed into both audio-in sockets on the monitor).
- Connect the other end to 'Audio Out'.

Video:

- Connect the S-video cable to the S-video connector on your monitor (or Scart adapter). If you do not have an S-video connector on your monitor, connect the RCA-RCA video cable to the RCA connector on your monitor.
- Connect the other end to 'Video Out'.



3. Power Cable

- Connect the power supply to the ‘DC in’ input on the system. Connect the power cable to the power supply. Connect the power cable to an electrical distribution socket.

4. LAN Cable

- To use the system on LAN, connect a LAN cable from the ‘Ethernet’ connector on the system to your LAN.

5. Wireless LAN - Insert PC Card

- Remove the “dummy” card by pressing the ‘Eject’ button next to the slot.
- Insert the Wireless LAN PC Card.

Note! Make sure you insert the card in the right direction (with the product logo pointing upwards). Push the card into the slot until the Eject button pops up.

See chapter Wireless LAN Settings for configuration.

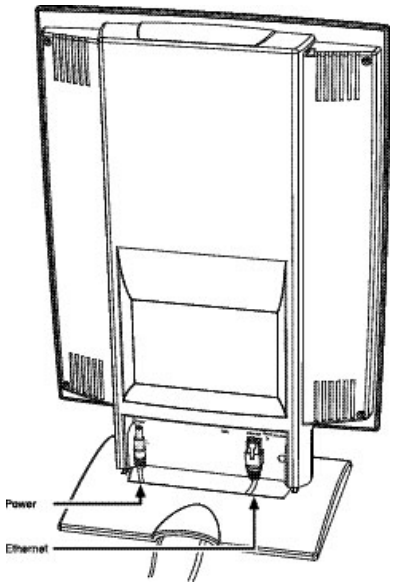
2.2.2 TANDBERG 1000 MXP for Cisco CallManager

1. Power Cable

- Connect the power supply to the ‘DC in’ input on the system.
- Connect the power cable to the power supply.
- Connect the power cable to an electrical distribution socket.

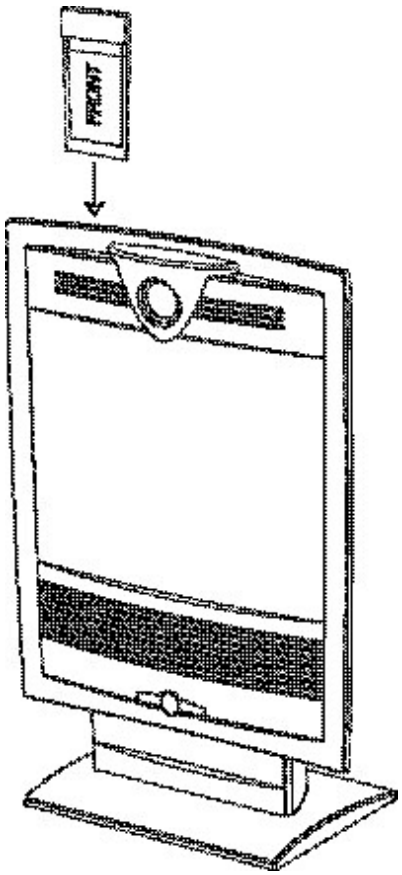
2. LAN Cable

- Connect a LAN cable from the ‘Ethernet’ connector on the system to your LAN.



3. Wireless LAN - Insert PC Card

- Remove the “dummy” card by pressing the ‘Eject’ button next to the slot.
- Insert the Wireless LAN PC Card.

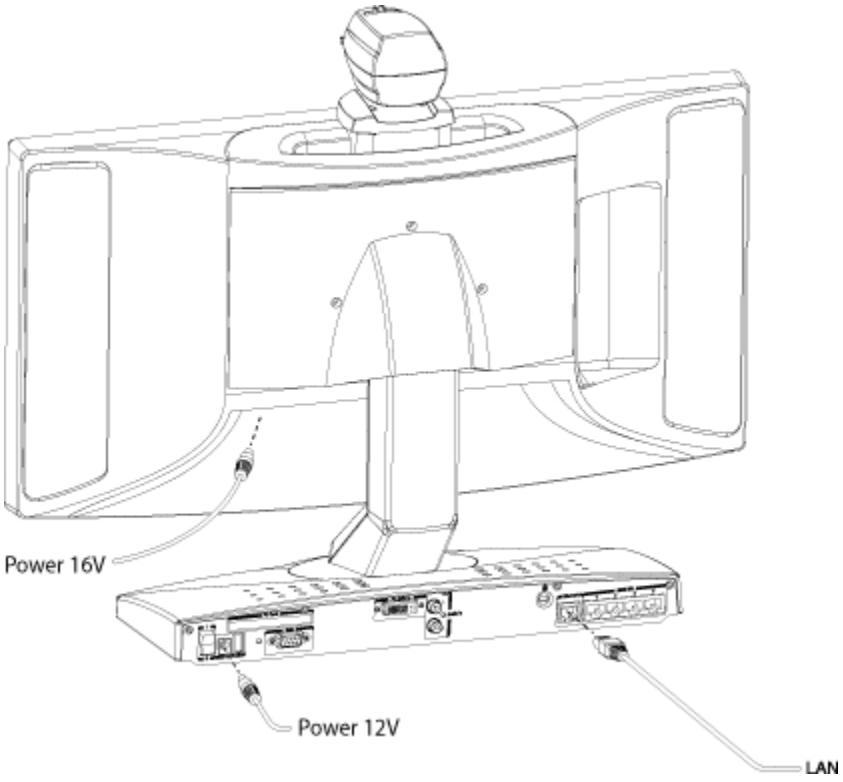


Note! Make sure you insert the card in the right direction. Push the card into the slot until the Eject button pops up.

See chapter Wireless LAN Settings for configuration.

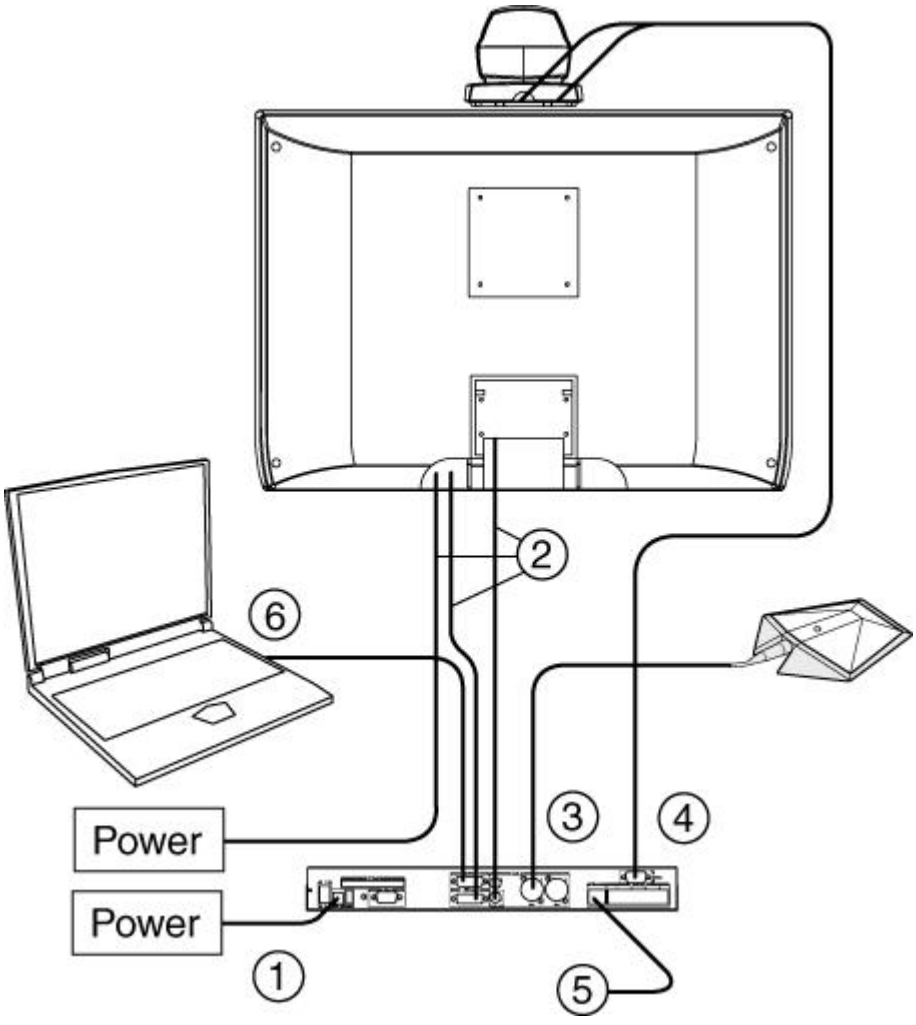
2.2.3 TANDBERG 1500 MXP for Cisco CallManager

Connect the cables according to the figure below:



2.2.4 TANDBERG 2000 MXP for Cisco CallManager

Connect the cables according to the drawing below. This drawing shows only the active connectors. Some products may have additional non-working connectors.



1. Power cable
Connect the system power cable and monitor power cable to an electrical distribution socket.

2. Monitor cables
Connect the Video cable labelled "VGA IN, Main Monitor", the Audio cable (with adapter) labelled "Audio Out" and the power cable to the monitor as shown on the figure.

3. Microphone cable
Connect the microphone cable to the microphone.

4. Camera cable
Connect the camera cable labeled “S-video out” and "Control in" to the camera as shown on the figure.

5. LAN cable
To connect the system to a Local Area Network (LAN), connect the cable labeled "LAN Ethernet" to a suitable Ethernet port on the LAN.

6. VGA cable
For using a PC with your videoconferencing system, connect a PC to the codec with a VGA cable.

2.3 Monitor Configuration

(For systems with separate monitors)

Power on

Power on the monitor and use the monitor remote control to select the Audio/Video input used (refer to your monitor manual). If you are using S-video from the system, remember to select S-Video input to avoid a black and white picture.

Select Audio/Video input on monitor

Selection of Audio/Video input used is generally performed by pressing the 0/AV button on the TV remote control several times. Please refer to your monitor user manual for further information.

3 General Use

Wake up the system

When the system is not in use, it is in standby mode and the screen is black. Wake up the system by picking up the remote control. An incoming call or pressing any key on the remote control will also wake up the system.

If the system does not respond

Make sure that the power cable is connected.

3.1 The Welcome Menu

When the system is switched on, you will see the welcome screen. The welcome screen presents the Main menu and displays your Main Camera image in the background (Main Camera is system default). The following menu will appear when not in a call. Press OK or Cancel(X) to activate or hide the welcome menu. This screen provides you with the telephone number(s) assigned to your unit.

3.2 Using the Remote Control

The system is controlled with a remote control. Think of the remote control as a mobile phone with number keys and call keys. Use the arrow keys and OK to navigate the menu. The system's most commonly used functions are also accessible directly from the remote control.
The Infra Red (IR) sensor for the remote control is located in front of the camera.

1. Correspond with the commands at the bottom of the screen, see Softkeys for details.
2. Mic Off turns your microphone on and off, see Mic Off for details.
3. Arrow keys are used for navigation in the menu and for moving the camera when the menu is hidden, see Navigation for details.
4. Volume + and – adjusts the system volume, see Volume + and - for details.
5. The Layout key toggles between full screen and different display layouts, see Screen Settings for details.
6. Cancel takes you back one step in the menu system. Use Cancel to delete characters in an input field, see Navigation for details.
7. Press the Call key to place a call, see Call Handling for details.
8. Not in use.
9. Not in use.
10. Voice Mail – indicates that you have a voice mail that you can be retrieved.
11. Services.
12. The Presentation key switches to a predefined presentation source, see Presentation for details.
13. Press OK/Menu to show the menu and to select menu items, see Navigation for details.
14. Use Zoom + and – to zoom the camera in and out, see Camera Control for details.
15. Selfview displays your outgoing video. Press Selfview again to turn selfview off, see Selfview for details.
16. Store and recall your video contacts via the system Phone Book for easy

placement of calls, see Directory for details.
17. Use the red End Call key to end the current call, see Ending a Call for details.
18. Number/Letter keys function in the same manner as with a mobile or cellular phone.
19. See Touch Tones for details.
20. Help.
21. Configuration / Administrator settings.

3.2.1 Navigation

Arrow keys and OK
Navigate in the menu with arrow keys. The yellow selector on screen shows the selected item. Press OK to select.

Cancel key
In the main menu, pressing Cancel (X) will hide the menu. If the menu is hidden, bring it back with OK. In other menus, pressing Cancel (X) takes you one step back. In an input field, pressing Cancel (X) will delete characters/numbers to the left.

3.2.2 Selfview

The term “Selfview” means the outgoing image. In a normal call, using main camera, this is the image of your self. The Selfview button toggles the images between Far End, Selfview and Dual Video (if any).

How to use Selfview:

1. Outside a call, pressing the Selfview button will switch between the near end video and a black screen on the main monitor.
2. In a point to point call, press the Selfview button once to switch from far end video to near end video see a full screen picture of the outgoing video. Press Selfview again to go back to normal.
3. In a point to point call with a dual video stream, the dual stream is displayed in the big picture. Press the Selfview button to toggle to the Near End picture, then the Far End picture, and finally back to the dual stream.

The above behavior is similar for both single monitor systems and dual monitor systems. Selfview applies for the main monitor.

3.2.3 Layout

The layout of the screen can either be shown as Picture in Picture (PIP) or Picture outside Picture (POP) when displaying more than one video image. The behavior of the Layout button is dependent on the Picture Layout setting in Screen Settings.

3.2.3.1 Picture in Picture

When Picture Layout is set to PIP, the Layout button makes it possible to see a second image in a smaller view in one of the corners of the screen. The second image will be placed on top of the main image. The user can decide in which corner the second image is to be displayed.

3.2.3.2 Picture outside Picture

When Picture Layout is set to POP, the Layout button makes it possible to see up to three images in a composition optimized for wide screens. The second image can be displayed either as a side-by-side the main image (1+1) or smaller images next to the main image (1+2 and 1+3).

Press the Layout button once to get side-by-side view (1+1). Press again to get the layouts 1+2 and 1+3, and finally go back to full screen view. You can also go back to full screen directly by pressing and holding Layout for 1 second. It is recommended to use Picture outside Picture for wide screen monitor systems.

3.2.4 Mic Off

To mute your microphone, press Mic Off. An on screen indicator will appear. Pressing Mic Off one more time will activate the microphone again.

3.2.5 Volume + and -

Press the Volume key to adjust the volume level. An on-screen indicator will show the current level.

3.2.6 Number and Letter keys

Pressing a number key when outside a call will bring up the call menu.

When in an input field where letters are required, the system automatically goes to letter mode. Writing letters works like on a mobile phone. Press the key that corresponds to your desired letter. Press the key as many times as needed to get the right letter. Change to lower or back to upper case letters with the a/A key, and space with the 0 _ key.

To write numbers in a text input field, press the button through all the letters. Press once more and the number will appear.

Example: How do I write "System 123" in the System Name input field (in General in Administrator Settings)?

Press the 7-key four times to get an "S".
Press the #-key once to switch between upper case and lower case letters.
Press the 9-key three times to get a "y".
Press the 7-key four times to get an "s".
Press the 8-key once to get a "t".
Press the 3-key twice to get an "e".
Press the 6-key once to get an "m".
Press the 0-key once to get space.
Press the 1-key three times to get a "1".
Press the 2-key four times to get a "2".
Press the 3-key four times to get a "3".

3.2.7 Touch Tones

Sometimes you need to dial extension numbers with the number keys when you are in a call. To do this, just enter your extension number with the number keys.

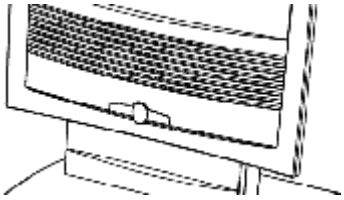
3.2.8 Softkeys

The commands shown at the bottom of the screen are called softkeys and correspond with the keys on top of the remote control. This means that to make a call, you can press the button on the remote control that corresponds to the NewCall softkey on the bottom of the screen.

3.2.9 Push-button

On the TANDBERG 1000 MXP for Cisco CallManager only

The push-button is located below the loudspeakers in front of the unit. Pressing the push-button will answer an incoming call.



Inside a call the push-button toggles between headset audio and conference phone audio, i.e. speaker on/off.
When the speaker is off, the audio is available on the headset output marked 'Headset' on the left hand side of the system.

3.3 On-screen Indicators

The system has a number of icons signaling different settings:

Microphone Off
This indicator is shown when the microphone is turned off. Press the Mic off button again to turn the microphone back on.

Volume Off
This indicator is shown when the volume is turned off. Press Volume + to turn the volume back on.

Message
This indicator is shown if there is one or more new voice mail messages pending

Headset active
Activate the headset by pressing the button in front of the TANDBERG 1000 MXP. Deactivate the headset by pressing the button once more. A headset indicator is shown when the headset is active.

3.4 Camera Control

The following applies for the camera on the TANDBERG 550/770/2000 MXP for Cisco CallManager systems:

- Moving the Camera
- Zoom

All TANDBERG MXP for Cisco CallManager systems has Far End Camera Control, see Far End Camera Control for details.

The camera on the TANDBERG 1000 MXP for Cisco CallManager has manual focus, see Manual Focus for details.

The camera on the TANDBERG 1500 MXP for Cisco CallManager can be moved manually, see Manual Camera Control for details.

3.4.1 Moving the camera

The camera can be controlled by using the keys on the remote control.

When the menu is hidden, the arrow keys will work on the camera*. Hide the menu with the Cancel (X) key and adjust the camera with the arrow keys.

* Not applicable for the TANDBERG 1000 MXP and TANDBERG 1500 MXP cameras.

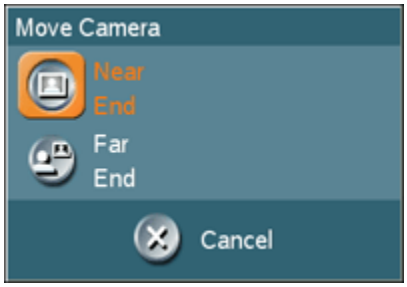
3.4.2 Zoom

The zoom key on the remote control will zoom the picture in and out (+ and -)*.

* Not applicable for the TANDBERG 1000 MXP and TANDBERG 1500 MXP.

3.4.3 Far End Camera Control

When you are in a call, you can move both near end* and far end cameras if the far end side supports Far End Camera Control. When the menu is hidden, the arrow keys will trigger a dialog box that offers you the options: Near End and Far End. Near End means your own camera. Far End means the far end's camera. Select Near End or Far End to control the respective camera.



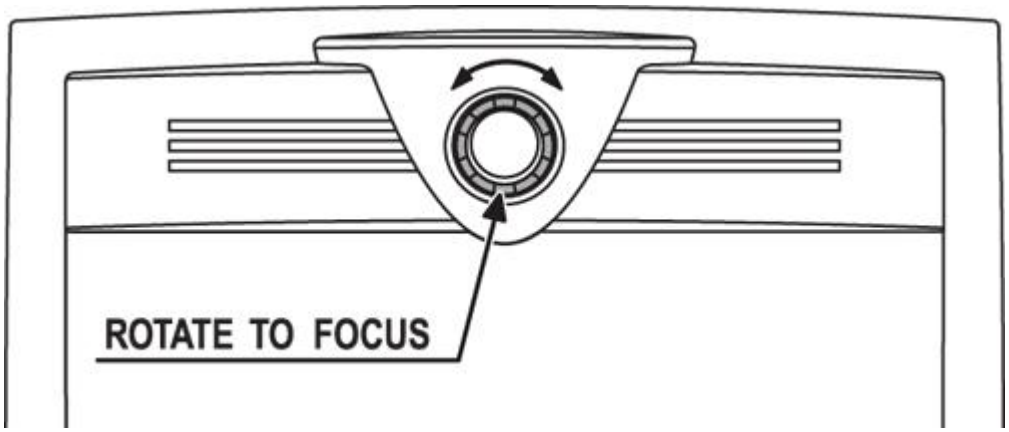
3.4.3.1 How to use Far End Camera Control:

- Choose Far End in dialog box
- Move the far end camera with arrow keys and zoom
- Press OK when done to escape far end camera control mode

* Not applicable for the TANDBERG 1000 MXP and TANDBERG 1500 MXP cameras.

3.4.4 Manual Focus

The focus on the TANDBERG 1000 MXP can be adjusted manually by rotating the focus ring on the camera lens.



3.4.5 Manual Camera Control

The TANDBERG 1500 MXP for Cisco CallManager has manual camera control. You can zoom the camera using the handle on top of the camera. Pan and tilt the camera to the desired position.

3.5 Call Handling

Call Handling contains:

- Placing a Call
- Answering a Call
- Ending a Call
- Using Hold and Resume
- Transferring a Connected Call
- Conference Calls
- Forward Calls to another Number
- Storing and Retrieving Parked Calls

3.5.1 Placing a call

To place a call there are several ways to go off-hook before or after dialing a number.

Action	Procedure
Dial off-hook (with dial tone):	Press the NewCall softkey. Enter a phone number. The system will automatically connect the call once the number has been entered.
Dial on-hook (no dial tone):	Enter a phone number. Press the Dial softkey or the green connect button after the number has been entered to place the call.
Redial the most recently dialed number:	Press the Redial softkey.
Dial from a call log:	Press the Directory button and choose Missed Calls, Received Calls or Placed Calls. Press the Dial softkey to go off-hook.
Dial from Corporate Directory:	Press the Directory button and choose Corporate Directory. Search for a listing by using the remote control to enter letters. You can search using a partial name. To dial from a listing, scroll to it and press the Dial softkey.
Place a call when another call is active:	Press Hold. Next, press New Call. Then dial, redial or select a number from a directory.
Receive a notification when a busy or ringing extension becomes available:	Call the number and press CallBack while listening to the busy tone or ring sound. Hang up. When the extension becomes available, your phone will alert you. (The callback to this number is not automatic; you must place the call.) CallBack is a special feature that your system administrator might configure for your phone.

3.5.2 Answering a call

To answer a call, go off-hook. See details below.

Action	Procedure
Answer when system is idle:	Press the Answer softkey.
Switch from a connected call to answer a ringing call:	Press the Answer softkey. Doing so answers the new call and automatically places the first call on hold.
Set up your phone to automatically connect an incoming call after a ring or two:	Your system administrator can set up the AutoAnswer feature.

Answering a call with the push-button on the TANDBERG 1000 MXP

The push-button on the front panel of the unit works as a connect button during an incoming call. When in a call, the push-button toggles between the headset and the internal microphone/loudspeaker. When a call ends, the internal microphone/loudspeaker will be activated again.

3.5.3 Ending a Call

To end a call, press the EndCall softkey or the red disconnect button .

3.5.4 Using Hold and Resume

Only one call can be active at any given time and all other calls must be placed on hold.

Action	Procedure
Put a call on hold:	Highlight the call you want to put on hold and press the Hold softkey.
Remove a call from hold:	Highlight the call you want to remove from hold and press the Resume softkey.

3.5.5 Transferring a Connected Call

Transfer redirects a connected call. The target is the number to which you want to transfer the call.

Action	Procedure
Transfer a call without talking to the transfer recipient:	During a connected call, press the Transfer softkey and enter the target number. When you hear the call ringing, press the Transfer softkey again.
Talk to the transfer recipient before transferring a call (“consult transfer”):	During a connected call, press the Transfer softkey and enter the target number. Wait for the transfer recipient to answer. If the recipient accepts the transferred call, press the Transfer softkey again. If the recipient refuses the call, press the Resume softkey to return to the original call.
Transfer two current calls to each other (“direct transfer”):	Highlight any call on the line and press the Select softkey. Repeat this process for the second call. With one of the selected calls highlighted, press the DirTrfr softkey. (You might need to press the more softkey first.) The two calls connect to each other and drop you from the call. If you want to stay on the line with the callers, select the Join softkey to create a conference instead. See Conference Calls for details.

3.5.6 Conference Calls

A conference call enables three or more sites to participate in the same conference. Your system can support different modes of conference calls. Two modes are described below. They are identified by their softkeys. The CallManager must be set up with an MCU in order to support conference calls.

Confrn Select this softkey to establish standard conferences by calling each participant individually.

Join Select this softkey to establish a standard conference between several calls already on the line.

3.5.6.1 Procedures for starting and joining conferences

Action	Procedure
Join current callers into a conference:	With two or more calls on a single line, scroll to highlight any call on the line and press the Select softkey. Repeat this process for each call you want to add to the conference. From one of the selected calls, press the Join softkey. (You might need to press the more softkey first.) The active call is automatically added to the conference.
Establish a conference call by calling participants:	During a connected call, press the Confrn softkey to add another party to the call. (You might need to press the more softkey first.) Enter the conference participant's phone number. After the call connects and you have spoken to the conference participant, press the Confrn softkey again to add this party to your call. Follow this procedure to add each participant.
Join a standard conference:	Answer the phone when it rings. No other action required for joining conference.
View conference participants list:	Highlight an active conference, and press the ConfList softkey. The participants are listed in the order in which they entered the conference. The most recent participants are listed on the top.
Remove conference participant:	Highlight the participant's name, and press the Remove softkey.
End a conference:	Press the EndCall softkey.

3.5.7 Forward Calls to another Number

Call Forward All can be used to redirect incoming calls to your system to another number.

Action	Procedure
Set up call forwarding on the primary line:	Press the softkey CFwdALL and enter a target phone number.
Cancel call forwarding on the primary line:	Press the softkey CFwdALL.
Verify that call forwarding is enabled on the primary line:	Check the status line and call state icon for the line. When call forwarding is enabled, a message appears in the status line showing the number to which calls are being forwarded.

3.5.8 Storing and Retrieving Parked Calls

A call can be parked so that you or someone else can retrieve it from another phone or video endpoint in the Cisco CallManager system.

Action	Procedure
Park an active call:	During a call, press the Park softkey. (You might need to press the More softkey first). Note the call park number displayed on the screen and hang up.
Retrieve a parked call:	Enter the call park number from any Cisco IP Phone in your network to connect to the call.

3.6 Directory

Corporate Directory

To dial from a Corporate Directory, press the directory button , and then select the menu entry Corporate Directory. Search for a listing by entering letters with your keypad. (You can search using a partial name.) To dial from a listing, press it, or scroll to it and go off-hook.

Call Logs

To view your call logs, press the directory button , and then select one of Missed Calls, Placed Calls, or Received Calls.

To dial from a call log, choose a listing and select the Dial softkey. To edit the number before dialing, choose EditDial followed by << or >> to reposition the cursor or erase digits. Use the remote control to enter digits.

3.7 Messages

If there is a new message waiting to be played back, you can access this using the Messages menu. If no messages are waiting, there will be no response activating this menu.

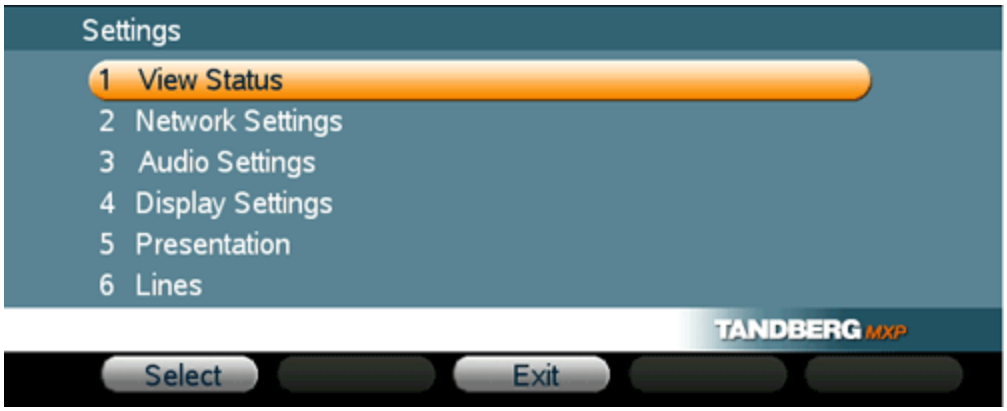
A symbol on the left indicates that there are one or more new messages pending, see On-screen Indicators for details.

3.8 Services

Selecting this menu enables you to access information services, such as weather, stock quotes and other services available at your company. Use the navigation keys to select the desired service and press the Services softkey to enter the service.

Note! Before accessing these services, your system administrator must customize them and make them available to you. Additionally, you must subscribe to the services that you want to appear on your phone.

4 Settings



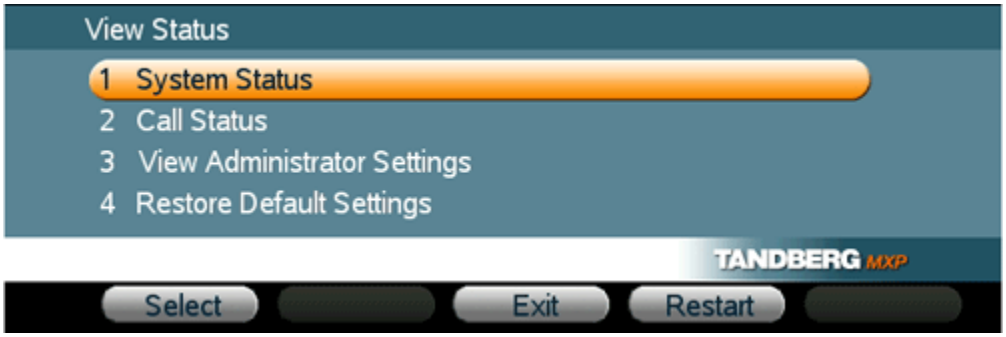
The Settings menu contains all the settings of the system. Making changes to Settings will change the behavior of the system.

Settings contain:

- View Status
- Network Settings
- Audio Settings
- Display Settings
- Presentation
- Lines

Note! The Network Settings menu may not be available to you. The system administrator can disable this menu from being shown on your system.

4.1 View Status



In this menu you retrieve information about the system, such as the system and call status and the administrator settings. In addition you can restore all settings back to factory defaults.

View Status contains:

- System Status
- Call Status
- View Administrator Settings
- Restore Default Settings

4.1.1 System Status

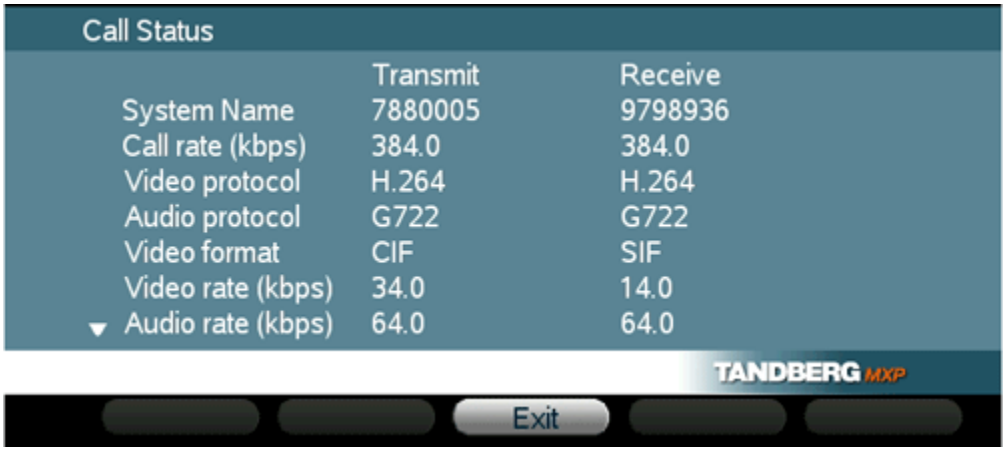
In the system status menu you find information such as:

- IP address of your unit.
- IP-subnet mask.
- Gateway.
- Boot Load ID.
- Software version.
- Serial number of your unit.
- MAC-address of your unit.
- Ethernet speed.
- VLAN ID (Virtual LAN id)
- Wireless LAN strength, mode, base station
- PCCard type
- Active and backup call managers.
- TFTP server address.
- DNS server addresses
- DNS domain name.
- URLs for Information, Directories, Messages and Services.

Use the up and down navigation keys on your remote control to scroll up and down pages in the menu.

4.1.2 Call Status

In the Call Status menu, comprehensive information about the current call is shown. Information is given both for transmit and receive directions. The figure below shows a sample output from this menu.



4.1.3 View Administrator Settings

To show the system settings, enter the View Administrator Settings menu.

Here you will find the current configuration for:

- IP
- TFTP
- DNS
- Audio
- Video
- Data Port

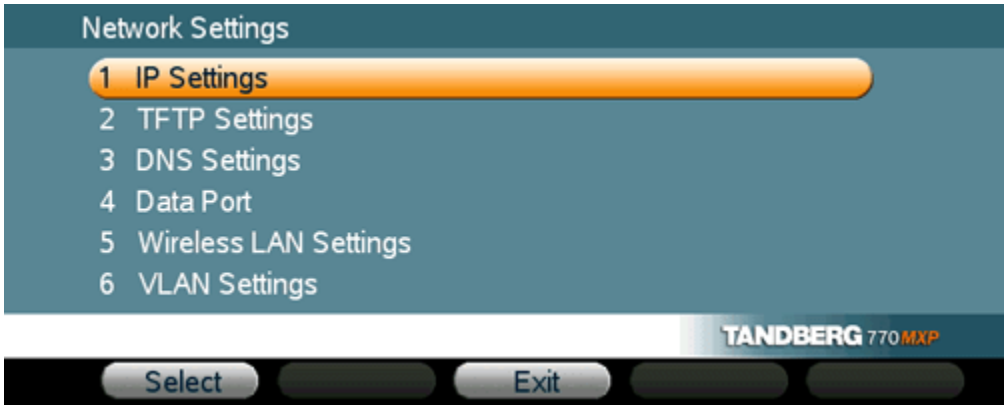
Use the up and down navigation keys on your remote control to scroll up and down pages in the menu.

4.1.4 Restore Default Settings

The Restore Default Settings function will restore the system settings to default value.

Your unit will restart after you have confirmed that you want to restore the settings.

4.2 Network Settings



The network settings menu enables you to configure IP, TFTP, wireless LAN, DNS and the data port.

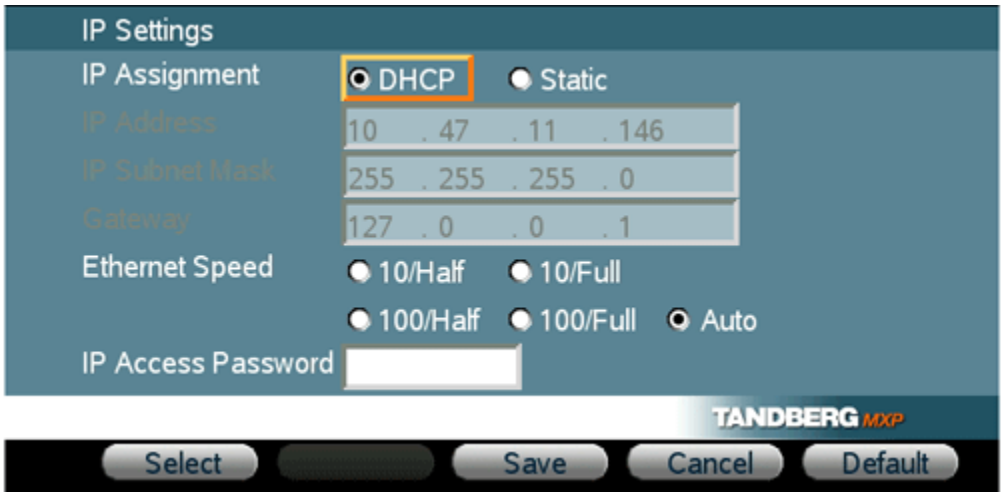
- IP Settings
- TFTP Settings
- DNS Settings
- Data Port
- Wireless LAN Settings
- VLAN settings

Note! The Wireless LAN Settings menu may not be available. This depends on whether your unit has a Wireless LAN card slot or not. When using Wireless LAN, the MAC address of the Wireless LAN PC card must be registered in the CallManager.

Note! You should not change any network settings without confirming this with your system administrator. Incorrect network configuration may cause malfunction in your unit.

4.2.1 IP Settings

Remember to restart the system after making changes to IP Settings. Changes in IP Settings menu will not have any effect before the system is restarted.



IP-assignment

DHCP (Dynamic Host Configuration Protocol) can be selected when a DHCP server is present.

DHCP	IP-address, IP-subnet mask and Gateway are not used because the DHCP server assigns these parameters.
Static	The system's IP-address, IP-subnet mask and Gateway must be specified in the IP-address field.

IP-address

IP-address defines the network address of the codec. This address is only used in static mode. In DHCP-mode, the assigned IP-address can be found on the View Status menu

IP-subnet mask

IP-subnet mask defines the type of network. This address is only used in static mode. Your LAN-administrator will provide the correct value for this field.

Gateway

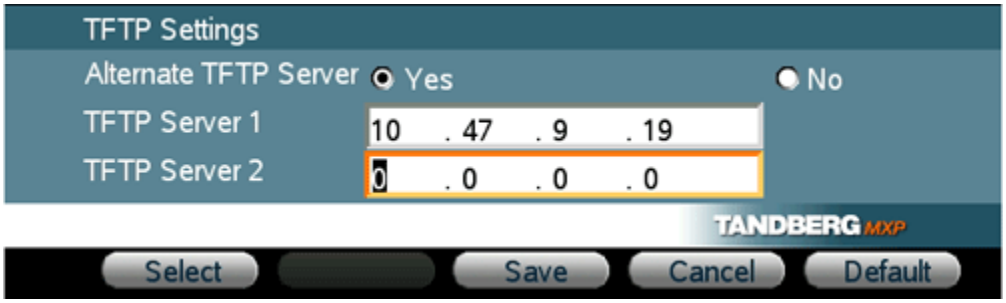
When using DHCP, the default gateway will be set automatically. If the LAN utilizes static IP addresses, IP address, subnet mask, and default gateway must be specified by the LAN administrator.

Ethernet Speed

Auto	The codec will auto-detect the speed/duplex on the LAN.
10/Half	The codec will connect to the LAN using 10Mbps speed/Half Duplex.
10/Full	10 Mbps speed/Full Duplex.
100/Half	100 Mbps speed/Half Duplex.
100/Full	100 Mbps speed/Full Duplex.

IP Access Password
By setting an IP Password on your TANDBERG unit, all access to the system using IP (Telnet, FTP) requires a password.

4.2.2 TFTP Settings



Alternate TFTP Server

To use an alternate TFTP server, select “Yes”. If alternate TFTP server is not be used, select “No”. In this case the IP address fields will be disabled.

Primary TFTP Server

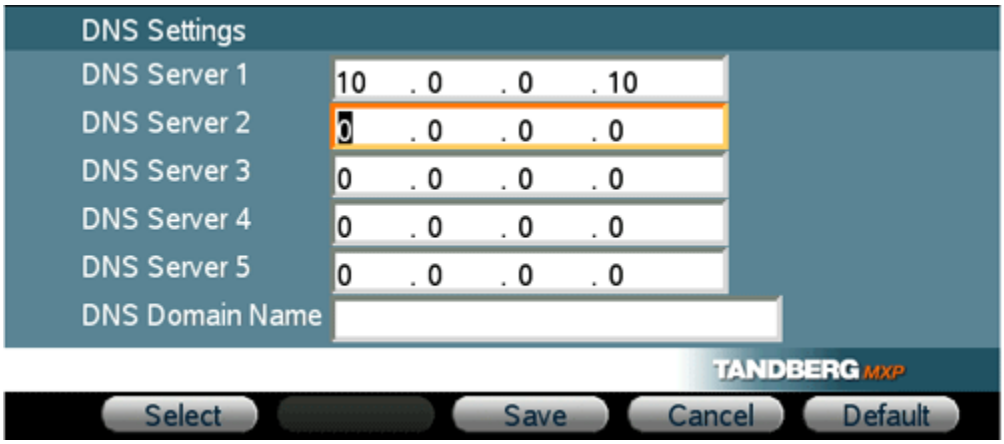
Enter the IP address of your TFTP server.

Backup TFTP Server

Optionally you can enter the IP address of a second server in this field.

4.2.3 DNS Settings

Up to five DNS (Dynamic Name Server) can be configured. The minimum required is one.
In addition, a DNS domain name must be provided.



Note that if DHCP is used in the IP Settings, the DNS Settings menu will be disabled.

4.2.4 Data Port

The system provides a standard RS232 serial port* to allow a computer to be connected for data transfer and control purposes.

Note that when connecting to a PC the connecting cable must be a straight through RS232 cable.

* This does not apply for the TANDBERG 1000 MXP.

Baud Rate, Parity, Databits and Stopbits

If you wish to connect a PC to Data port 1, you must ensure that the PC and the system are identically configured. The available settings are:

Baud Rate	1200, 2400, 4800, 9600, 19200, 38400, 57600, 115200
Parity	None, Odd, Even
Databits	7, 8
Stopbits	1, 2

Mode

The Data port supports 2 different modes:

Control	The control interface provided by the data port supports a subset of the Hayes command set as well as a comprehensive set of system specific commands. This mode maintains communication with the data port's command interpreter at all times. All features available from the hand-held remote control can be accessed through the data port.
Modem	Allows you to control the system externally via a PC as in Control Mode. Once a call is established, Data port 1 will automatically switch to Data mode. When the call disconnects, Data port 1 switches back to Control Mode.

4.2.5 Wireless LAN Settings

SSID (Service Set Identification)

Example “WLANNETWORK”. Defines a local network id for this wireless region (access point). It must be the same for all end points and the access point. An endpoint will find the access point if the SSID is correct, however if the encryption key is faulty it will not transmit any data.

Community (optional)

Community can be used when connecting to an access point where the SSID is the same. Example “Unit2”.

WLAN Mode

AdHoc	Used when not communicating with an access point.
Managed	Used when communication is made through an access point.

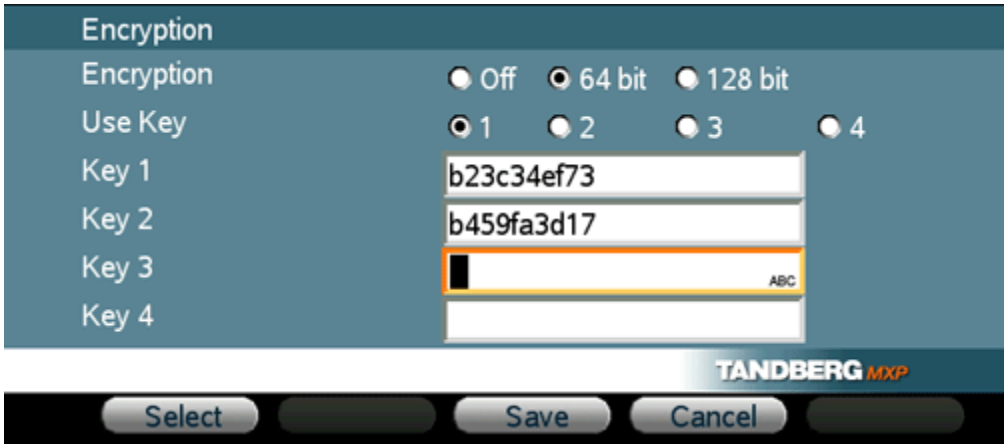
Make sure the corresponding settings are programmed into the access point. Restart your system to activate the settings.

Required cards
• Compaq WL110 11 Mbps Wireless LAN
• Lucent Orinoco 11 Mbit/s SILVER
• Lucent Orinoco 11 Mbit/s GOLD
• Cisco Aironet 350 series (AIR-PCM 350 series)
• Enterasys Networks RoamAbout 802.11 DS High Rate
• Melco Buffalo WLI-PCM-L11G

Recommended access point
• Compaq WL410 base station

Note! The PC card/PCMCIA-card used must comply with the relevant regulations for such cards in the country where it is used. The unit must be supplied by power supply (AC-DC adapter) powerbox SPN-270-12, which complies with the requirements for limited power source according to IEC/EN 60950.

Encryption

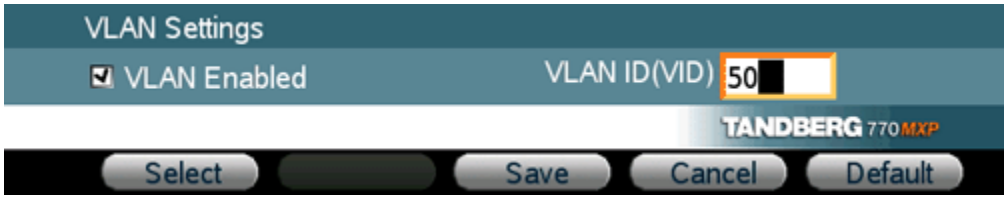


Select if you want to encrypt your Wireless LAN connection. Increased encryption level will decrease performance.

Use Key	Select which of the keys shown below you want to use.
Key 1-4	The 64-bit keys can consist of a leading star (*) and 5 characters. The 128-bit key can consist of a leading star (*) and 13 characters. Start with a * and then the text. Example: 128 bit key: *secretkeyhome.

Encryption using Hex numbers The 64-bit keys can consist of 10 hexadecimal digits. Example: “de01ad4dbe”. The 128-bit key can consist of 26 hex numbers.

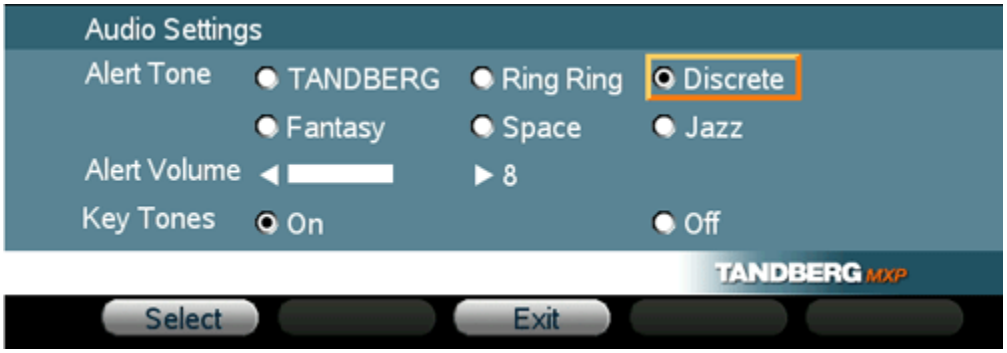
4.2.6 VLAN Settings



VLANs enable efficient traffic separation, better bandwidth utilization, and alleviate scaling issues by logically segmenting the physical local-area network (LAN) infrastructure into different subnets so that packets are switched only between ports within the same VLAN. Voice and video network traffic can be logically separated from the traditional computer network traffic (web, mail etc).

VLAN Enabled	Mark the checkbox to activate the VLAN ID setting.
VLAN ID	VLAN ID is the essential piece of required header information. This id identifies traffic as belonging to a particular VLAN.

4.3 Audio Settings



Alert Tone

Different ringing tones may be selected.

Alert Volume

You may change the volume level for the selected ringing tone.

Key Tones

On	There will be a tone indicator when pressing keys on the remote control.
Off	There will be no tone when pressing keys on the remote control.

Audio Outputs (applicable for TANDBERG 1000 MXP only)

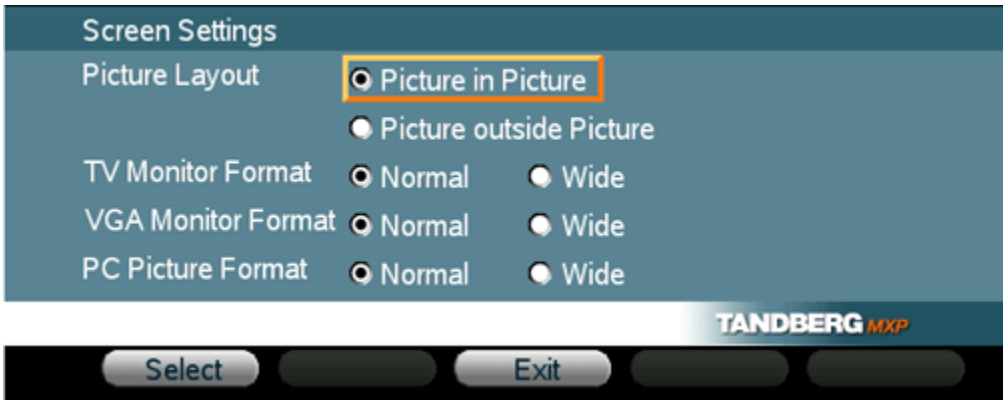
Speaker Enabled	Select Speaker Enabled to enable the loudspeaker as the desired audio output.
Headset Enabled	Select Headset Enabled to enable the headset as the desired audio output.

4.4 Display Settings

The Display settings menu enables you to configure picture layouts, screen formats, focus, whitebalance and brightness. There are two submenus:

- Screen Settings
- Picture Control

4.4.1 Screen Settings



Picture Layout (wide screen monitors only)

The Advanced Picture Layout is related to the Layout button on the remote control and it can be used at any time to change the screen layout. For wide screen systems POP mode is recommended. You will get optimized picture layouts for wide screen by pressing the Layout button on the remote.

Picture in Picture (PIP)	Pressing the Layout button on the remote will result in an extra picture in smaller view (Picture in Picture). Press the Layout button to move it and finally hide it.
Picture outside Picture (POP)	Pressing the Layout button on the remote will result in a smaller view placed outside the big picture. Press Layout once more to get side-by-side dual monitor view. Press Layout again to go back to normal full screen view. Pressing the Layout button on the remote will result in one large image and one or two smaller pictures placed outside the big picture. Press Layout once more to get a side by side view. Press Layout again to go back to normal full screen view.

Example of Picture in Picture.

Example of Picture outside Picture (wide screen).

Example of Side-by-Side view (wide screen).

TV Monitor Format (wide screen monitors only)

To fully leverage your wide screen display, activate the Native 16:9 format by setting the TV Monitor Format to Wide. Note that you should only change this setting if your TV monitor is a wide screen (16:9) monitor or projector. All composite and s-video output formats will then be optimized for Wide Screen TV monitors.

Normal	Output format is optimized for Normal VGA monitors (4:3)
Wide	Output format is optimized for Wide VGA monitors (16:9)

VGA Monitor Format

To fully leverage your wide screen display, activate the Native 16:9 format by setting the VGA Monitor Format to Wide. Note that you should only change this setting if your VGA monitor is a wide screen (16:9) monitor or projector. The VGA and DVI output will then be optimized for Wide Screen VGA display.

Normal	Output format is optimized for Normal VGA monitors (4:3)
Wide	Output format is optimized for Wide VGA monitors (16:9)

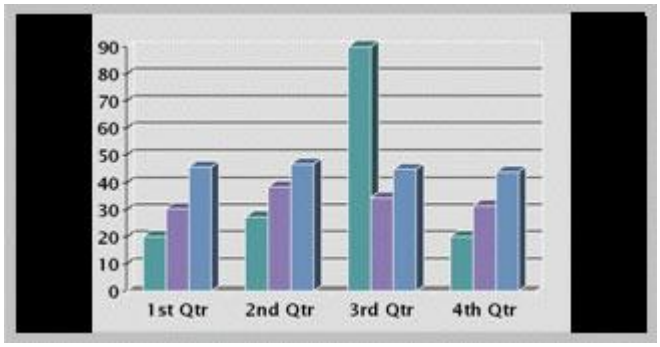
Wide screen VGA or TV monitor in Normal (stretched) mode.

Wide screen VGA or TV monitor In Wide (native) mode.

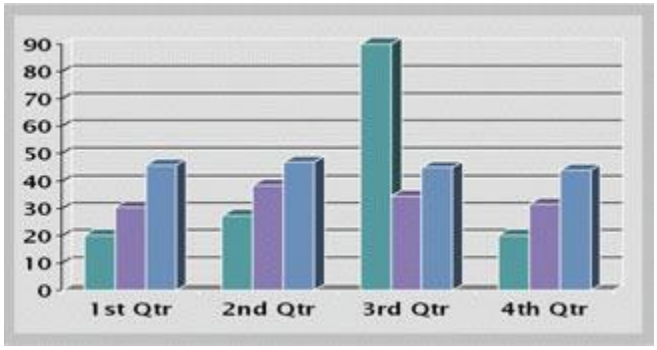
PC Picture Format (wide screen monitors only)

PC Picture Format setting only takes effect when TV or VGA Monitor Format is set to Wide. Use this setting to determine if you want your PC presentations to be shown stretched in full screen, or with correct aspect ratio using part of the widescreen display

Normal	VGA output will have 4:3 aspect ratio on wide screen monitor.
Wide	VGA output will utilize the wide screen monitor at full.

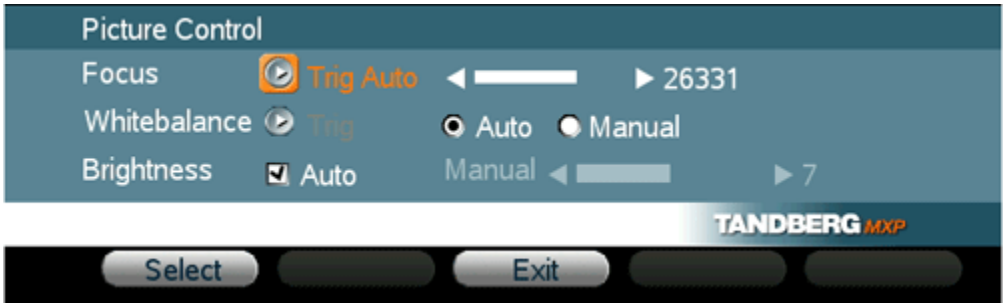


PC presentation shown in Normal (correct ratio) mode.



PC Presentation shown in Wide (stretched) mode.

4.4.2 Picture Control



Focus

Auto	In Auto mode the focus is continuously updated. When moving the camera, the system will use auto focus for 5 seconds to set the right focus of the new camera position. After 5 seconds auto focus is turned off to prevent continuous focus adjustments of the camera.
Manual	Use the arrow keys to manually adjust the focus.

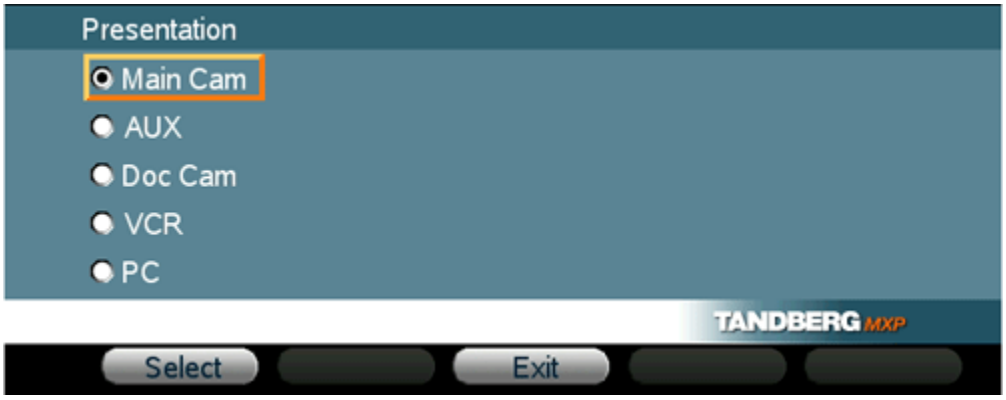
Whitebalance

Auto	In Auto mode the whitebalance is continuously updated.
Manual	To update the whitebalance manually, select Manual and press OK. A white object should be held in front of the camera a few seconds before and after selecting Manual white balance.

Brightness

Auto	In Auto mode the brightness is continuously updated.
Manual	Use the arrow keys to manually adjust the brightness.

4.5 Presentation



The Presentation menu offers you all available video sources.

For the TANDBERG 770 MXP, 1500 MXP and 2000 MXP these are:

- Main Camera
- AUX
- Document Camera
- VCR
- PC

For the TANDBERG 550 MXP, these are:

- Main Camera
- AUX

For the TANDBERG 1000 MXP, these are:

- Main Camera
- PC

Use the arrow key to scroll to the desired video input. Press the select softkey, and then the exit softkey. The new video source will not take effect before you have exited the Presentation menu.

Using the screen as local PC monitor
(Applies for TANDBERG 1000 MXP, TANDBERG 1500 MXP and TANDBERG 2000 MXP)

To use the screen as local PC monitor, use the presentation key on the remote control to select “PC” as video input source. The local monitor supports video resolutions up to XGA.

The screen saver will be disabled when selecting “PC” as video input source.

Note that the system will transmit the local PC picture to the remote site if a call is set up when PC is selected as video input source. Users should consider disabling auto answer if the system is used as local PC monitor.

4.6 Lines

The extension numbers assigned to your unit are shown in the ‘Lines’ menu. To dial from one of your multiple lines, scroll to the desired line, press the “Select” softkey (or OK), and dial the number you want to reach.

Speed Dials

You can assign up to four speed dials on your unit. Your speed dial numbers are shown in the ‘Lines’ menu. To call a speed dial number, scroll to the number on your menu and press the ‘Select’ softkey.

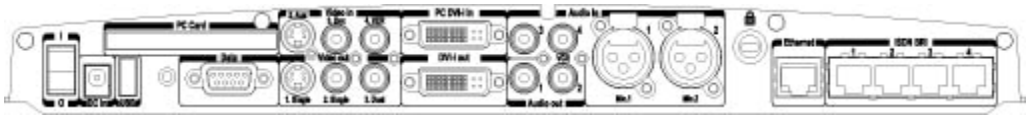
5 Peripheral Equipment

5.1.1.1.1 PC-interface (serial cable):

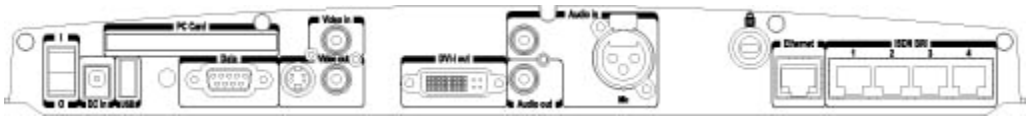
A PC can be connected to your TANDBERG for Cisco CallManager using a serial cable, see the interfaces drawings below. This enables you to interact with the unit using data port commands. This is also possible over LAN, using telnet. The available commands are specified in a separate document.

Note that this does not apply to the TANDBERG 1000 MXP for Cisco CallManager.

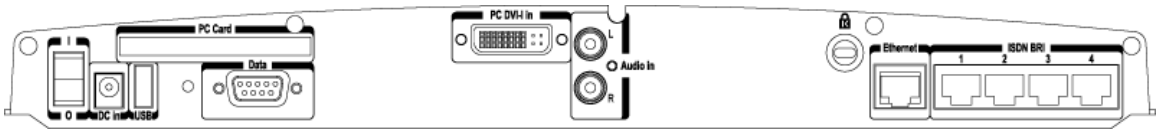
TANDBERG 770 MXP



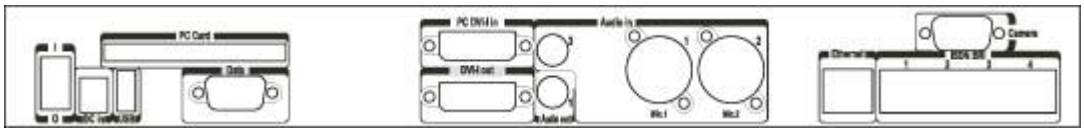
TANDBERG 550 MXP



TANDBERG 1500 MXP



TANDBERG 2000 MXP



5.1.1.1.2 Headset Interface:

It is possible to use a headset with your TANDBERG 1000 MXP for Cisco CallManager. To enable audio to your headset, press the push-button in front of your unit.

6 Appendices

Appendices:

- Appendix 1: Technical Specification
- Appendix 2: Declaration of Conformity
- Appendix 3: Software Upgrade Tool

Appendix 1

Technical Specification

Contact your TANDBERG representative for a Technical Specification for the

TANDBERG 550 MXP for Cisco CallManager
TANDBERG 770 MXP for Cisco CallManager
TANDBERG 1000 MXP for Cisco CallManager
TANDBERG 1500 MXP for Cisco CallManager
TANDBERG 2000 MXP for Cisco CallManager

or download from www.tandberg.net.

Appendix 2

Declaration of Conformity

Contact your TANDBERG representative for a Declaration of Conformity or download from www.tandberg.net.

Appendix 3

Software Upgrade Tool

A tool for upgrading software for TANDBERG SCCP endpoints can be downloaded from the ftp site listed below:

http://ftp.tandberg.net/pub/software/endpoints/cisco_call_manager_series/
(download file TANDBERG_SCCP_Upgrade_Tool.exe)

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8 Glossary

A

Alert speaker: The internal speaker will warn you of an incoming call even though the monitor may not be switched on.

Audio call: Audio call equals a telephone call. You can make a call with the video system with audio only.

C

Call status: Comprehensive information about the call listing transmitted and received audio/video/data information.

Codec: The Codec is the heart of the system. The main task for the Codec is the compression of outgoing video, audio and data, the transmission of this information to the far end, and the decompression of the incoming information.

D

Dataport: The system provides a standard RS232 dataport to allow a computer to be connected for data transfer and control purposes.

I

Incoming call: Someone calls into your system.

IP-address: Defines the network address of the system. This address is only used in static mode.

IP-assignment: IP-address, IP-subnet mask and Gateway are assigned by the DHCP server.

IP-assignment Static: The system's IP-address and IP-subnet mask must be specified in the IP-address field.

IP-subnet mask: Defines the type of network. This address is only used in static mode.

L

Layout: Use the Layout key to change picture layout on the screen.

M

Main camera: Your camera. Video input 1

MicOff: Microphone is switched off.

N

NTSC: National Television System Committee. Video standard corresponding to 4SIF. Primary used in USA, Japan and other countries.

P

PAL: Phase Alternation by Line. Video standard corresponding to 4CIF. Primary used in Europe, Middle East and Asia.

PIP: Picture-In-Picture

Point to point call: A call with two participants including yourself.

POP: Picture Outside Picture. POP is a picture layout mode that is optimized for wide screens: Full screen, 1+3 layout and side by side layout.

Presentation: Presentation means to show another video source. Use the Presentation Key for a predefined presentation source. Use the presentation menu to choose among all available video sources.

R

Remote: Short for remote control.

Restart: Restarts the system.

Restore defaults: Restores system settings to the factory defaults.

S

Selfview: Outgoing video. In most cases, the image of yourself.

System status: Lists IP-address, MAC-address, software version, serial number and other useful information about the system.

T

Touch tones: To dial extension numbers etc. during a call, use touch tones in order to get tones instead of preset on the number keys.

W

Welcome menu: The welcome menu displays the main menu when you are outside a call.